Figure 1: *Partial bit-stream reconstructions from a progressive encoding of the Venus head model. File sizes are given in bytes and relative L_2 reconstruction error in multiples of 10^{-4}. The right most reconstruction is indistinguishable from the original.*
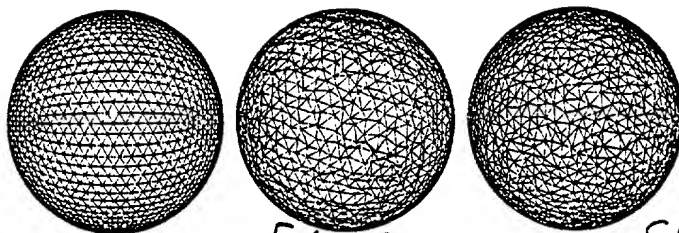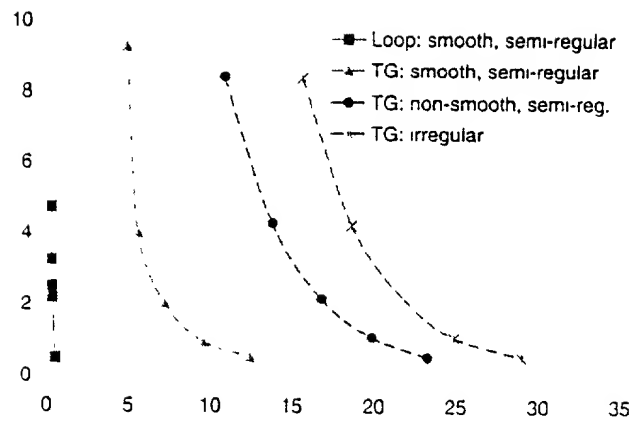
FIG1A

476B (e:40)

FIG1B

1528B (e: 12)

FIG1C

4163B (e: 4.7)
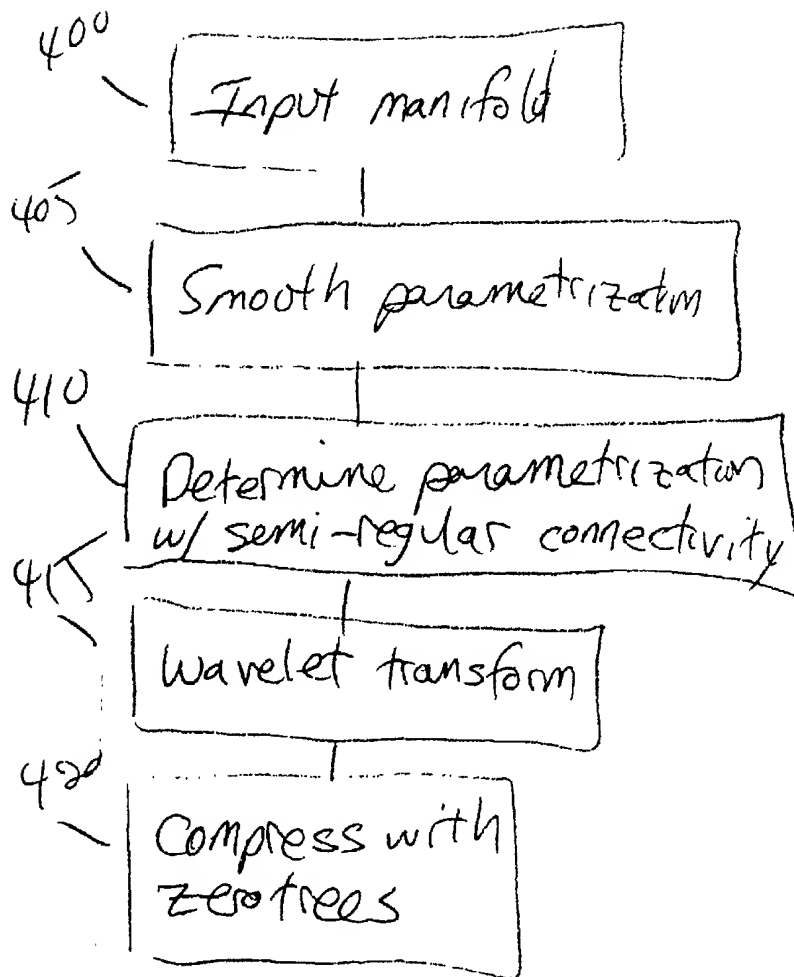
FIG1D

26800B (e: 0.82)
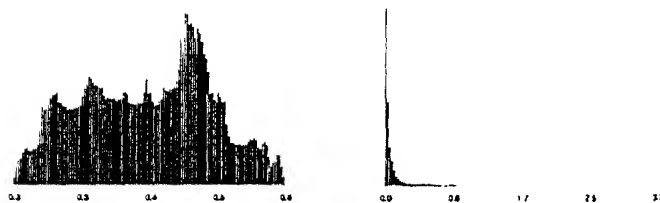
FIG 2A   FIG 2B   FIG 2 c

Figure 2: *Three spherical meshes each with 2562 vertices: smooth semi-regular (left), non-smooth semi-regular (middle), irregular (right). They have the same geometry information. The middle one also has parameter information while the right one has parameter and connectivity information.*

Figure 3: *Rate distortion curves for the triangle meshes from Figure 2 measured in relative L^2 error on a scale of 10^{-4} as a function of rate in b/v for TG coordinate quantization levels of 8-12b.*

400 Input manifold

405 Smooth parametrization

410 Determine parametrization w/ semi-regular connectivity

415 Wavelet transform

420 Compress with zerotrees

FIG 4

Figure 5: *Histograms of vertex wavelet coefficient magnitudes for Venus, showing the decorrelation power of the wavelets.*
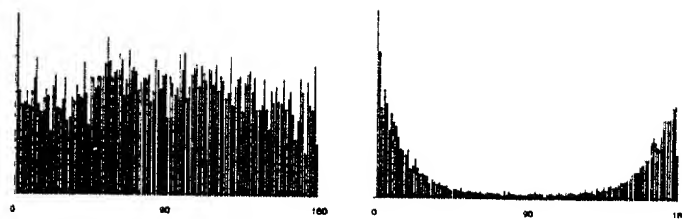
Figure 6: *Histograms of wavelet coefficient polar θ angles for the Venus head model in global (left) and local (right) frames. Coefficients lie mostly in the normal direction.*
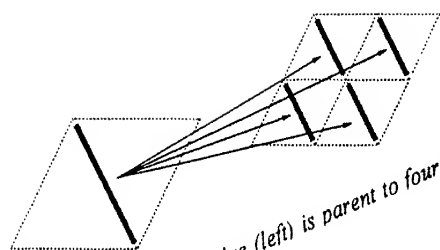
Figure 7: A coarse edge (left) is parent to four finer